

What is Claimed is:

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1. A projector comprising:
a light source for emitting beams of lights;
a rod lens for receiving the beams of lights from the light source for making a distribution of the beams uniform; and,
a polarization beam converter having a lens part for receiving the beams from the rod lens and focusing onto a plurality of focusing points, and polarization beam sprite array for receiving the beams inclusive of a P wave and an S wave, and forwarding the P wave as it is, and converting the P wave into the S wave before forwarding.
 2. A projector as claimed in claim 1, wherein the light source is a lamp with an elliptic reflector.
 3. A projector as claimed in claim 1, wherein an optical input surface of the rod lens has an area equal to, or greater than an area of the optical output surface.
 4. A projector as claimed in claim 1, wherein the lens part includes at least one illumination lens.
 5. A projector as claimed in claim 1, further comprising means between the light source and the rod lens for splitting at least one color beam from the beams of lights.
 6. A projector as claimed in claim 5, wherein the means is a color wheel.

7. A projector as claimed in claim 1, wherein the polarization beam sprite array includes;

two polarization beam split planes for transmitting the P wave and reflecting the S wave among the beams from the lens part,

reflection planes facing the polarization beam split planes respectively, for reflecting the S wave reflected at the polarization beam split planes to an optical output surface of the polarization beam sprite array, and

a half wavelength plate attached to the optical output surface of the polarization beam split planes for converting the P wave transmitted through the polarization beam split planes into the S wave.

8. A projector as claimed in claim 7, wherein the two polarization beam split planes are located at a center part of the polarization beam sprite array in a triangular form.

9. A projector as claimed in claim 1, wherein the polarization beam sprite array includes half wavelength ($\lambda/2$) plates fitted to parts of the polarization beam converter where the S waves are provided, for providing P waves on the whole as the P waves transmitted through the polarization beam converter as they were proceed intact and the S waves are converted into the P waves.

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